

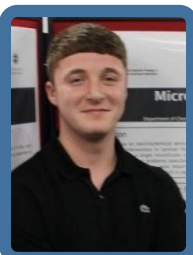
SOFI CDT Newsletter

May 2016

A new issue means that we say hi to two new SOFI students and an academic. Enjoy!

SOFI Student: Michael Heeran

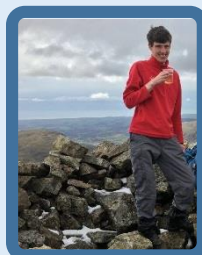
Hello, my name is Michael Heeran. I graduated with a MChem in Chemistry at Durham University. As part of my degree, I completed a final year placement based in industry at DuPont Teijin Films. This work was focussed on investigating the use of epoxy-based adhesive coatings for use in photovoltaic cells. After completing my placement year, I then joined the SOFI CDT.



Currently, I am working back at Durham University with Dr. Phil Dyer and Dr. Joke Speelman from AkzoNobel. My project aim is to understand the solution interactions occurring between antiwear and friction modifier engine lubricant additives. This work has primarily involved synthesising a variety of antiwear lubricant additives, and then studying their solution interactions with commercial friction modifiers, in particular by ^{31}P NMR.

SOFI Student: Ben Robertson

My name is Ben Robertson and I graduated from Durham with a degree in Chemistry My final year project involved simulating chemical reaction pathways and producing energy level diagrams. I liked it so much in Durham I'm now back doing a PhD on computer simulations of polymer flows with Richard Thompson and Tom McLeish. My Industrial partner is Ian Robinson from Lucite.



I am in the Department of Chemistry although dabble in polymer physics regularly. You may also find me in the lab doing rheology and/or extrusion experiments on some polystyrenes every so often. I am trying to predict extrudate swell of polymers computationally and compare these predictions to experiments. If I'm not at work I'll be up a hill in the Yorkshire Dales or on a ridge in the Lake District somewhere. I'll probably be very wet and cold but enjoying it all the same!

SOFI Staff: Job Thijssen

This issue, we catch up with University of Edinburgh staff member, Job Thijssen!

I obtained my Ph.D. in Soft Condensed Matter in 2007 from Utrecht University in The Netherlands, focussing on growing colloidal crystals for photonic applications in external electric fields and characterizing them in real space (confocal microscopy) and reciprocal space (X-ray diffraction). I was also exposed to colloid synthesis, which has been an invaluable experience, as I think it is important to understand the (surface chemistry of) the colloids I work with.

In 2007, I moved to Edinburgh to take up a postdoc position in the Soft Matter Physics group, where I started working on colloids at liquid interfaces, including the wondrous bicontinuous Pickering emulsions (bijels). In 2010, I was awarded a Royal Society of Edinburgh Research Fellowship to work on soft materials for energy-storage applications.

Recently, I have been appointed as a Chancellor's Fellow at The University of Edinburgh. My research focusses on the physics and application of soft materials, especially those in which interfaces are crucial and those that have potential for applications in coatings and energy materials. I am also involved in outreach activities (e.g. DIY lava lamps) and in projects with or inspired by industry, an example of which is the 2016 project topic with AkzoNobel ("Quantitative study of instability in double emulsions") currently advertised on the SOFI CDT website.



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Enterprise School

As part of the SOFI-CDT training programme, Cohort 1 was invited to take part in a two day course developed by the Durham Enterprise School. During the training the group engaged in a variety of interactive lectures, to identifying the key elements required to develop skills in consultancy, working effectively with others, informal networking and creative thinking. These essential skills to embarking on successful enterprises, within our PhD training and beyond, were then put to the test in a variety of intense activities.

Interwoven between group activities to promote team-building were a series of workshops led by invited entrepreneurs from local companies. The groups were challenged with simulated consultancy exercises addressing real-world problems posed the invited entrepreneurs. Each group was required to demonstrate their proposed solutions via consultations and presentation - and a very professional job they made it! The power of re-branding was also put to the test with each group being given the task of launching a new branch with a prototype advert for failing product. After successfully completing the Durham Enterprise School the members of the SOFI-CDT gained new skills useful in undertaking challenging future enterprises, in academic or industrial setting, and new ideas of how to apply them to their continuation of their remaining PhD.

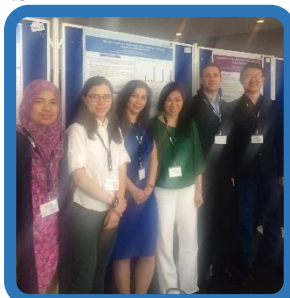


Above: Cohort 1 students deep in conversation.

Left: Enterprise school or play school??

SOFI Out and About

The first UK Soft Matter Showcase is almost upon us and the SOFI students are working hard on their posters. See the section on the bottom right on this page for more information. But first, lets see where else they have been or are venturing to!

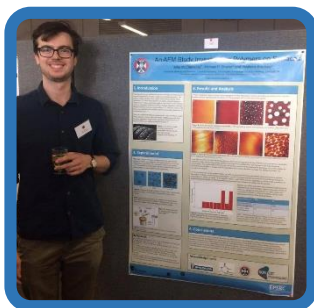


From 10th to 13th of April, Alessandro, Papoole, Prof. Brent Murray, Dr. Anwesha Sarkar and Dr. Rammile Ettelie among other Food Science students, attended the Food Colloids Conference in Wageningen, The Netherlands. This conference takes place every two years and specialists in colloid science from all over the world participate to present their

research via talks or posters. Alessandro and Papoole presented a poster on their PhD research so far, different people from academia and industry showed particular interest. Prof. Brent Murray and Dr. Anwesha Sarkar also gave a talk on their current projects. Details are shown at the University of Leeds webpage:

(<https://www.food.leeds.ac.uk/home/news/food-colloids-conference.html>). In 2018, the conference will be held in Leeds, place where it launched in 1986.

Jake has also been busy: "I attended the Macro Group UK Young Researchers Meeting 2016 in Liverpool. The content of this meeting was supplied solely by postgraduate students with 23 talks and poster session over the course of two days covering both pure and applied polymer chemistry."



Cohort 1 students Laura Sawiak and Rahul Chacko attended the Solutions in the Spring School, held at Homerton College, Cambridge from the 3rd to the 6th of April. Aside from listening to the excellent lectures on the self-assembly of surfactants, the theory and applications of microrheology and neutron reflectivity, and the statistical physics of confined fluids at interfaces, Laura and Rahul enjoyed the opportunity to network and socialise with other students in soft matter from around the country and around the world, and to explore the historic town of Cambridge. On the teaching and organising side, SOFI academics Drs. Paul Clegg and Margarita Staykova were scientific organisers for the school, while SOFI academic Dr. Simon Titmuss delivered the neutron reflectivity lectures.

In the future, Denise will be attending the 13th European Summer School on "Scattering Methods Applied to Soft Condensed Matter", Bombannes, Gironde, France, 20 -27 June 2016. Some of Cohort 1 and Cohort 2 will also be visiting the capital to summon up some outreach ideas at the Royal Society Summer Science Exhibition taking place from 4th-10th July. All of Cohort 1 will reunite again in Durham for a two week course at the Business School in July. Ben also received a grant from BSR to go to the International Congress of rheology in Japan this summer from 8th-12th August. Wow! Have fun, Ben!

Where are they now?

Cohort 2 are now settled in to their new permanent PhD institutions, let's see where they ended up.

Vanessa Woodhouse: In Durham studying: "Characterisation and multi scale modelling of peptoids with lipid bilayers".

Rebecca Fong: In Durham studying: "Molecular migration and blooming on polymer surfaces".

Hugh Barlow: In Durham studying: "Simulations of the Rheology of De-mixing Liquids".

Phil Buckley: In Durham studying: "Low temperature synthesis of graphene and related products via a novel, simple and scalable synthesis route".

Will Foster: In Durham studying: "Molecular-level organization and dynamics of miscible liquids at the interfaces with solids".

Tom Ridley: In Leeds studying: "Dynamics of packed soft colloids".

Jess Andrews: In Durham studying: "Pharmaceutical crystallisation in gels".

Peter Wyatt: In Leeds studying: "The Containment of Biaxial Liquid Crystals and it's Utility in Novel Devices".

Scott Bush: In Durham studying: "Graphene Nanocomposites".

Natasha Boulding: In Durham studying: "The design and characterisation of functional polymers for solid dispersions".

Morfo Zemybla: In Leeds studying: "Pickering stabilisation of water-in-oil emulsions using food grade particles".

Goodbye from Editor #1

After setting up and editing the newsletter for just over a year, it is time for me to pass on the baton to someone in Cohort 2. I hope you have enjoyed reading each issue as much as I have enjoyed editing them. I will look forward to reading the future issues! I must thank Ethan, Rahul, Jake and Edgar for helping me throughout. It's been a pleasure. Denise.

Meet us at...

Prof. Brent Murray is busy working with colleagues at the University of Leeds to organise the most important SOFI annual conference, to be held on 28-30 June 2016. After the success of the previous SOFI Industrial Networking Event, held at the University of Edinburgh, the SOFI 2016 conference will capture all of what the networking event entailed and more. Events will include a poster session from SOFI Cohort 1 students, speakers, one on one meetings as well as networking. This jam-packed two-day event is something not to be missed.

The event will be a great way to get the SOFI community together as well as welcoming new SOFI members. Registration is now open, please follow the link: <http://store.leeds.ac.uk/browse/product.asp?compid=1&modid=1&catid=693>. Note that SOFI CDT students can claim back their registration fee with their travel budget!

The UK Soft Matter Showcase Conference will be followed by dinner at the Leeds Town Hall which will be something spectacular! This is definitely not an event to be missed. So let's get the whole Soft Matter Science community together. See you all there!

Any queries, please contact: Brent Murray: B.S.Murray@food.leeds.ac.uk or email soficdt@leeds.ac.uk.